A GUIDE TO AN INDEPENDENT STUDY OF A BIOGRAPHY USING HIGHER LEVEL THINKING SKILLS AND MULTIPLE TALENT APPROACH

MASTER'S PROJECT

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by

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DEDICATION

Dedicated to my parents in gratitude for their encouragement to pursue higher education and to my sons, Jeff and Chris, as encouragement for them to do the same.

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CHAPTER I

INTRODUCTION

Background and Justification of the Problem

The author is a sixth grade language arts teacher in the Bexley City Schools. As a part of the author's reading program, the students are expected to read at least one book in each of eight genrés: fiction, science fiction, historical fiction, fantasy, biography/autobiography, non-fiction, and mystery. Each year it was apparent that the students saved the biographies to be among the last chosen. The author decided that if the students had an independent study guide to steer them through a book of their choice, they might find the assignment more appealing and rewarding.

It was not too difficult for a student to retell the names of the main characters and give a brief overview of their life, but the author wanted the student to have a deeper appreciation and understanding of the character.

For many years Bexley City Schools have been interested in developing higher level thinking skills, particularly those outlined by Benjamin Bloom (Polette, 1982). Recently an emphasis has been placed on Calvin Taylor's Multiple Talent Approach as well (Maker, 1982). A concern has been stated by the administration that only the gifted and talented students are exposed to questions requiring the higher levels of thinking outlined by these authors. Therefore, this author became interested in identifying the levels of thinking skills

already used in her program and expanding the program to make use of the talent areas outlined by Taylor.

A guide would be beneficial to other teachers in the district who want to be sure students are being given an opportunity to think beyond the knowledge and comprehension levels. It would also be beneficial to parents who want to be certain their children are being exposed to questions that require application analysis, synthesis, and evaluation. The guide should clearly state which level of thinking is being addressed by the questions.

Problem Statement

The purpose of this project was to design a study guide for biographies using all levels of thinking as well as the talent areas as outlined by Benjamin Bloom and Calvin Taylor.

Procedure

Subjects

The subjects who will use this guide will be sixth grade students. The students who are Caucasian receive a great deal of parental support. Since the guide was developed for independent use, a variety of reading levels can be included.

Setting

The guide was developed for the author's sixth grade students at Cassingham Elementary School. The school is located in the Bexley City School

System, Franklin County, Bexley, Ohio. The city lies on the east side of metropolitan Columbus. The school system has approximately 2,000 students. Most families are upper middle class professionals. Cassingham Elementary is housed on the bottom floor of the Middle School building and is joined to the High School by a joint cafeteria. Although the sixth grade is considered part of the elementary, it is departmentalized and is organized more like a middle school.

Data Collection

Information, activities, and research data will be collected from the following:

1. Articles from educational journals
2. Instructional activities guides
3. Personal files
4. Instructional Options Program guide
5. Resource books

Design

The format of the project is an independent guide to be used by the student while reading a biography. There are questions relating to each of the six levels of thinking outlined by Bloom: knowledge, comprehension, application, analysis, synthesis, and evaluation. A chart is included to offer suggestions of activities to reach the talent areas: academic talent, creative talent, decision making talent, planning, forecasting, and communication; outlined in Taylor's Multiple Talent Approach.

Results

The result of this project is a guide to an independent study of a biography including questions and activities to utilize all levels of thinking and talent areas.

CHAPTER II

REVIEW OF LITERATURE

Justification of the Problem

The improvement of thinking skills in students is considered top priority by a growing number of American educators (Gallup, 1985, as in Walters, 1990). School administrators and teachers feel pressured by parents, community leaders, and the news media to improve the thinking skills of children. Businessmen, politicians, and national leaders are concerned about this nation's education system because Russians and Japanese score better than Americans on standardized tests requiring higher level cognitive abilities. Whereas good teachers have always included the teaching of thinking skills in their educational process, more emphasis is placed on these skills in today's curriculum.

Richard Paul (1984), one of the foremost researchers in the field of critical thinking, states, "Without the ability to think, without the ability to reason, students are intellectually, emotionally, and morally incomplete" (Girvan, 1989). This is one of many such comments that represents the research on the value of teaching thinking skills that has appeared countless times in educational journals during the 1980's. A great deal of the research supports those like Paul who believe the conditions necessary for being educated involve "the ability to think critically, the ability to evaluate one's surroundings, the ability to see a question

from opposing points of view, and the ability to process, and apply learnings to many settings" (Girvan, 1989). Even though there seems to be a controversy as to "how" critical thinking should be taught, in an isolated subject or integrated into specific courses, almost all sectors of education agree that it should be taught. Barry (1984), Blair and Johnson (1980), National Assessment of Educational Progress (1981), and Nosich (1982, as in Walters, 1990) claim that "critical thinking is a pragmatic imperative in an age of information overload, deceptive advertising, and political ideology. Others such as Peck (1981), Patman (1985), Siegel (1988, as in Walters) argue that training in critical thinking is a necessary condition for the very possibility of effective learning in general. Paul (1982, 1984, 1987) and Scriven (1980, as in Walters, 1990) believe that instruction in critical thinking fosters an open-minded tolerance of alternative perspectives and world views. Nathan (1986, 1988, as in Walters, 1990) states, "Students need [training in] much more than basic skills; they must also become thoughtful, responsible problem solvers." Assuming then that critical thinking promotes such intellectual responsibility, Norris (1985, 44, as in Walters, 1990) insists that critical thinking "is not an educational option."

Explanation of Benjamin Bloom's Taxonomy

One prerequisite to improve instruction in thinking involves a thorough analysis and understanding of Bloom's Taxonomy of the Cognitive Domain. The taxonomy is a hierarchy of cognitive learning skills: knowledge, comprehension, application, analysis, synthesis, and evaluation. These created a framework for

viewing the educational process. Thinking skills can be improved when the teacher incorporates strategies which push the students to include not only memorization of facts but cause the students to have to work with an idea which can be addressed only by including the higher levels of thinking — application, analysis, synthesis, and evaluation. Including and using these strategies in the curriculum not only increase the teacher's awareness of these levels but also the ability of the teacher to use a variety of questioning techniques.

There are several assumptions underlying the Bloom model. Bloom's Taxonomy is hierarchial. It is this assumption that the higher level depends on the levels below it. In other words, application or analysis could not be achieved before or without knowledge and comprehension. Teachers, therefore, must make certain that their students are able to perform the behaviors at the lower level before expecting them to achieve at the higher levels.

Another assumption is that all learners are capable of the thinking and feeling processes described in each level of the taxonomy. It is believed that given enough time all children are capable of the thinking processes of analysis, synthesis, and evaluation (Maker, 1982).

The first level, knowledge, does not require the student do anything with the information except remember it. This level mainly involves learning the information. Some of the process verbs associated with this level are define, repeat, label, record, list, recall, memorize, relate, name, explain, and identify. This phase merely involves "pouring in" the information. This type of instruction is usually accomplished in a formal setting and can be achieved with large groups.

During this phase students usually are attentive and respond to the classroom situation. They absorb the information by listening, looking, and reading. Memory plays a major role in this phase. The students may participate in drills and practice activities at this point. The information to be learned is often covered in a textbook, and the students recognize the covered information. Evidence of the student's success at this level is provided by completion of class and homework assignments and satisfactory scores on objective tests. The teacher directs student activities, gives information by way of lectures or drills, gives demonstrations and uses audio-visuals, gives homework assignments, and makes and administers tests.

The second lowest level of understanding is comprehension. At this phase the student should be able to make some use of the knowledge that has been gained but may not be able to relate it to other material or see its fullest implications. The student has to have some previous knowledge and then be able to restate the information in his way. Again, this instruction is usually accomplished in a formal setting. This time the group should be no larger than a typical class. Process verbs associated with the comprehension level are restate, discuss, recognize, explain, describe, identify, locate, report, and review. At this level students explain information rather than quoting. They are able to make simple demonstrations, extend information to new situations, and explain information in their own words. Evidence of the student's success comes from the ability to intelligently discuss the information, write a simple essay, and score satisfactorily on an objective test. At this phase the teacher demonstrates

material, listens to students, asks questions, compares and contrasts students' answers, makes carefully selected homework assignments, and makes and administers objective and low-level essay tests.

Application is the third level of Bloom's Taxonomy. At this level the student is exposed to using abstractions in particular and concrete situations. Whereas comprehension requires understanding something well enough to be able to explain it to someone else, application requires knowing which abstractions to use to solve a new problem. An example of this phase would be using the knowledge a student has gained about a particular setting in a book to create a model of the town square. Explanation plays a major role in this phase. Translate, interpret, apply, operate, employ, schedule, practice, illustrate, demonstrate, dramatize, explore, and solve/produce are process verbs associated with the application level. Instead of a formal setting used for knowledge and comprehension, instruction at this level is informal. Laboratories, the stage, shops, and the field, as well as groups within the classroom, work well for this type of instruction. Evidence of the student's success is shown by the ability to master problem-solving tests, demonstrate ability to use equipment, and ability to construct equipment, models, and graphs. Now is the time for teachers to show students ways to facilitate their work. The teacher should observe and criticize the student's activities, help design students' projects, and organize field trips and contests.

The fourth level is analysis. At this level information is broken down into its basic parts allowing relationships among ideas to be seen more clearly. At this

time basic arrangements can be studied. Verbs such as distinguish, debate, compare, test, analyze, diagram, question, criticize, differentiate, solve, relate, and calculate would be used at this level. Instruction at the analysis level is best conducted in an informal and irregular manner. Students discuss information in depth, discover interrelationships among ideas, realize deeper meanings and insinuations not apparent at first, and see similarities and differences between styles. Students who write effective outlines or complete effective experimental write-ups give evidence of success at the analysis level. At this level the teacher acts as a resource person, probes, observes, and guides the student. Planning and conducting seminars, discussions, and group critiques are also activities in which the teacher could be involved.

Synthesis is the fifth level of Bloom's Taxonomy. At the analysis level the student broke the communication down into parts. At the synthesis level the elements are put together to form a whole. It is the arranging and combining of pieces in a way that has never been done before. The student produces something new and different on his own. He may be asked to compose, design, propose, arrange, formulate, imagine, invent, collect, assemble, organize, or prepare. This phase of the taxonomy is especially adaptable for independent study. It can be accomplished in almost any setting, at home as well as at school. The library is often useful. Patience is necessary at this level. Reflection is generally required and the results often come slowly. Students at this level often produce unique communications, formulate new hypotheses based on information they've analyzed, make new discoveries and generalizations, and propose new

ways of doing things. Success of the student could be measured by his writing quality essays or term papers. Making effective blueprints or a set of plans for a project could also be a measurement of success. At this level the teacher extends the student's knowledge. Analysis and evaluation of the student's work is appropriate at this level. The teacher could also plan seminars and bring in consultants. Independent study is encouraged at this stage.

Evaluation is the sixth and final stage of Bloom's Taxonomy. This is the highest level and it contains elements of all the previous levels. The student judges the value of the information. These judgments can be based on criteria chosen by the student or on criteria given to him or her. Process verbs that would be used at this level are judge, score, predict, prove, select, rate, choose, estimate, value, assess, decide, and change.

Bloom's Taxonomy can be used very effectively in the teaching of language arts. If a class of sixth graders were assigned to read a biography, a series of questions could be developed using the process verbs just mentioned. For example, after reading the biography of a famous American, a teacher might ask the following questions.

CONTENT PRODUCT	1.	Name the characters in the book. (Knowledge)
	2.	Identify the successes and failures of the central character. (Comprehension)
	3.	Dramatize a scene to describe your character's feelings at the time of his greatest achievement. (Application)
	4.	Debate whether your person deserves having a biography written about his life.
	5.	Compose a poem describing your person. The description may be of either their physical appearance or their personality traits.
	6.	Evaluate the contributions this person has made to your life. Cite three things you've gained personally from this person. The contributions can be tangible, such as the use of the automobile from Henry Ford or the use of electricity, to the intangible, such as determination and courage from Helen Keller. Be sure to explain your choices.

Traditionally, classroom teachers have been content oriented and teachers of the gifted have been product oriented. Today educators and businessmen alike believe that all children need to improve their thinking skills. Bloom's Taxonomy gives teachers a hierarchy of questions to use to facilitate this process.

Description of Calvin Taylor's Multiple Talent Approach

Calvin W. Taylor was an early researcher in the area of creativity development. His approach to teaching — learning models is very controversial in the field of education. There are two related reasons for this controversy:

1) Taylor writes many articles about the talent potential of all children, and

2) educators seem to read a few articles or their titles and fail to read further to explore the underlying ideas (Maker, 1982). When Taylor wrote the article, "Nearly all students are talented: Let's reach them," it triggered the slogan

"Potentially All Kids Are Gifted." This threatened the gifted programs in some states. Special educators had been trying for some time to get funding for gifted children under the premise that they are a definable group of children who need special educational services because of their unique characteristics and needs. If, as the slogan suggested, most children are gifted, there is no justification for the program.

In order to understand Taylor's comment, "Nearly all students are talented," the reader had to understand Taylor's definitions of "gifted" and "talented." Usually, the term gifted refers to intellectual abilities and talented refers to so-called non-intellectual abilities such as creativity, superior capabilities in the performing or visual arts, leadership, and mechanical skills. Taylor's distinction, however, deals with degree. He refers to the gifted as those who are at the very top in any identified talent area and the talented as those between average and gifted in any talent area (Maker, 1982). Taylor was suggesting that if schools would recognize the wide range of abilities and develop them rather than concentrating just on the academic talent, a much greater percentage of children would be considered talented in at least one talent area. Taylor suggests that we not reform just the methods for identifying and teaching gifted children, but that the entire educational system be reformed so that a wide variety of talents such as creativity, communication, planning, forecasting, and decision making, as well as the academic abilities, are a focus of all classrooms (Maker, 1982).

Taylor believes that individuals, especially children of school age, have far more talents than they use. Teachers are wasting so much of this talent by

allowing it to lie dormant during the school years. Many positive benefits will result from awakening and utilizing these talents: many more people will be able to excel in at least one area, creating an opportunity for more people to feel good about themselves; people will become more self-directed as they experience and display their unique profiles (Taylor, 1968b, as in Maker); schools will not "lose" as many students through dropouts (Taylor, 1968b, as in Maker); and on the other side, some individuals who are always at the top in academics will experience the feeling of being toward the bottom in a different talent area, giving them a more realistic picture of themselves in relation to other people.

If teachers and educators accept the assumptions that talent is a matter of degree and that it is present in different individuals, certain changes will need to occur. The most important of these changes is that talent searches and development should occur in the regular classroom while children are acquiring knowledge (Taylor, Note 14, as in Maker). Teachers can develop open-ended activities so that a variety of talents can be developed or expressed. Other activities require different approaches for each type of talent. Teachers should be able to specialize because they may be better at developing a particular type of talent, but all children should experience each type of talent or each type of learning and thinking process (Taylor, Note 14, as in Maker). Finally, in order for this Multiple Talent Approach to work, the focus must be on what the children are learning, how and how well they are expressing a particular talent, rather than on what kind of information the teacher is imparting (Taylor, Note 15, as in Maker).

The most significant assumption Taylor (Note 15, as in Maker) makes about learning is that children will learn more and grow more in knowledge if his Multiple Talent Approach is used. There are two related ideas to support this assumption. First, children will acquire more knowledge because they will use more than one way to acquire it. Second, since the focus is on talent development rather than on knowledge gained, students will learn more. It is assumed that taking the focus away from knowledge itself enhances learning.

Another assumption is that the adult potential of many students is greatly enhanced because their base of experience is broadened while they are children (Taylor, 1968a, as in Maker). Taylor suggests avoiding a tremendous talent loss by recognizing and developing as early as possible a wide variety of abilities that are necessary for success in the real world.

At various times in the development of his approach, Taylor has included different talent areas. His final grouping seems to be academic, creative, decision making, planning, forecasting, and communication. The plan is practical for classroom teachers to use and is a way to make education more relevant by concentrating on real world talents and abilities (Maker, 1982). There are definitions along with guidelines for recognizing and developing talents in each of the areas. Academic talent is already being developed well in the schools, so guidelines for its development are rarely included in his publications.

Creative talent is defined as the ability to go beyond, to put together pieces of information or new ideas that seem unrelated and come up with new solutions or ways of expression. This talent includes three subtalents or components:

fluency, flexibility, and originality. Fluency is the ability to generate a large number of ideas. Quantity is more important than quality at this stage. Flexibility is the ability to generate a wide range of ideas. A flexible person will approach the problem from many different viewpoints. The answers given will reflect a variety of categories. Originality is the ability to generate unique ideas or solutions. The ideas given represent an unusual point of view. Creative talent is best developed by activities that encourage the generation of ideas without looking for specific solutions. The teacher process often follows the following basic pattern of eight steps (Maker, 1982):

1. Present a problem or something to consider.
2. Allow students time to think and list ideas.
3. Provide a setting for sharing, revising, and refining ideas.
4. Set aside a period of time to allow incubation.
5. Share additional ideas.
6. Have students select their best solution.
7. Have students select their most original solution.
8. Carry out the solutions or decisions.

The following guidelines (Eberle, 1974, as in Maker) are provided for identifying creative talent.

The Talented Creator . . .

1. Produces a large number of ideas for a given situation.
2. Has tolerance for disorder.
3. Often starts more than he can finish.

4. Their thinking and ideas may run contrary or opposite to others in class.

5. Produces ideas or products that are novel or unique.

6. At times, their work contains great detail, tends to be a "production."

7. Considers contrasting ways of approaching a task or solving a problem, in producing a variety of ideas he is usually slow to effect closure.

8. Adds their own ideas and notions to the work of others to produce a different, more complete and interesting idea or product.

9. Their thinking and expression is often spontaneous, unrestrained, unorthodox, and at times seemingly lacking in practical value.

10. Curious, can be challenged, a risk taker.

The student's role in this talent area is to be a creator or problem solver. Activities that help develop this talent include inventing a game, creating new uses for familiar objects, creating an object of art that expresses some emotion, creating a useful object by recycling junk, and inventing a machine that is energy efficient.

The teacher's role is to be a stimulator and a questioner. The appropriate quote is to be a "guide on the side, rather than a sage on the stage." Activities that a teacher can do include asking questions that lead students through a process of listing, refining, incubating, choosing, and implementing, as well as developing provocative or interesting situations that can be presented to students for creative activity.

Brainstorming is used in this talent area, but there are some rules to follow.

1. Criticism is ruled out.
2. Free-wheeling is welcomed. Silly ideas may trigger practical breakthroughs.
3. Hitch-hike or piggy-back ideas.
4. Quantity is wanted.

Creative cues that might be helpful are list, tell, compose, alter, rearrange, rephrase, substitute, change, restate, combine, reconstruct, adapt, magnify, originate, modify, rewrite, reverse, elaborate, and minify.

The creative talent in Calvin's Multiple Talent Approach relates to Bloom's synthesis level.

Decision making talent is the ability to evaluate data carefully before making judgments. This area involves experimental evaluation, logical evaluation, and judgment. Experimental evaluation involves considering possible solutions from a variety of points of view, examining all possible conditions that would limit or enhance success of the solution, and looking at the relationships of personal needs to the decisions to be made. During logical evaluation, possible solutions or decisions are examined according to their value. Each decision is considered in relation to established logical criteria with ratings assigned on that basis. In logical evaluation, the individual also considers goals, what sequence to follow in implementing the decision, and what the end result might be. Judgment is the actual decision making or drawing the conclusion of the best thing to do and defending that decision.

The teaching process of the decision making talent includes the following steps (Maker, 1982):

1. Consider thoroughly all aspects of the situation. Discuss this in a group.

2. Examine each possible decision, and the argument for and against that decision.

3. Assign a weight or rating to each argument.

4. Reach a conclusion by considering the arguments and their ratings.

5. Defend or support the decision made as the best based on their evaluation and logic.

The following is a list of characteristics provided by Eberle (1974, as in Maker, 1982) of talented decision makers.

The Talented Decision Maker . . .

1. Remains emotionally apart from the problem.

2. Weighs consequences, withholds early judgment.

3. Considers more than one course of action.

4. Poses many influential questions and seeks out the answers.

5. Engages in experimental evaluation; asks "What if?"

6. Has data to support his decision.

7. Applies evaluative criteria in making choices.

8. Is willing, not afraid, to make a decision.

9. Willingly defends his decision.

10. Sticks with his decision and acts accordingly.

Shartzer (Note 16, as in Maker) added the following traits of an effective decision maker:

1. Considers thoughts, feelings, and reactions of other people who will be involved in the final decision.

2. Relates own needs and willingness to accept decisions to the final judgment.

3. Considers goals and objectives as they relate to the decision making process.

4. (Has) wisdom and common sense.

5. (Is) willing to discuss situations with various people and accept their advice.

6. Evaluates decisions and changes when need arises — "Does not stay in a rut."

The student's role in this talent area is that of a decision maker. Activities that encourage development of this talent involve making a final decision. The student could be asked to decide what will happen at the end of an unfinished story, decide what to do about an unjust law, or decide where to live given unlimited choices.

The teacher's role is to be a stimulator and questioner. Situations could be developed for students to make decisions. Teachers could pose questions that encourage or require students to consider a variety of alternatives. Once the decision has been made, the teacher can assist students in defending their decisions. Verbs used with this talent area are determine, defend, conclude, discriminate, detect, disclose, evaluate, reveal, and conclude. The decision making talent corresponds with Bloom's evaluation level.

The third talent is the planning talent. It is the ability to plan effectively and involves skills in the areas of elaboration, sensitivity to problems, and organizing. Elaboration is the ability to use detailed sequence to explain what is being done. It involves being able to identify the purpose, the process, and the

end product. Sensitivity to problems is the ability to understand how outside or personal factors may affect how something is done. This includes the ability to identify conditions that cannot be changed and the possible consequences of one's acts. Organization includes the ability to secure materials and human resources and to arrange for the time, space, and money necessary to accomplish a task. Taylor (1971, as in Maker) believes planning is developmental. Before students can be expected to make complex plans, they must experience making and executing simple plans. In order to teach or develop this ability, students should be involved in alternate planning, replanning, diversified planning, unplanning, and flexible planning.

The teaching process for the planning talent includes these steps:

1. Determine what is the task to be accomplished.
2. Identify the materials and human resources necessary.
3. Develop a detailed sequence of steps explaining what is to be done.
4. Identify the time, space, and money necessary.
5. Pinpoint possible outside or personal factors that may affect the plan.
6. Develop possible alternative plans if a problem interferes.
7. Carry out the plan (optional).

To help the teacher identify the talented planner, Renzulli et al. (1976, as in Maker, 1982) provide the following list of characteristics:

1. Determines what information or resources are necessary for accomplishing a task.
2. Grasps the relationship of individual steps to the whole process.

3. Allows time to execute all steps involved in a process.

4. Foresees consequences or effects of actions.

5. Organizes his or her work well.

6. Takes into account the details necessary to accomplish a goal.

7. Is good at games of strategy where it is necessary to anticipate several moves ahead.

8. Recognizes the various alternative methods for accomplishing a goal.

9. Can pinpoint where areas of difficulty might arise in a procedure or activity.

10. Arrange steps of a project in a sensible order or time sequence.

11. Is good at breaking down an activity into step-by-step procedures.

12. Establishes priorities when organizing activities.

13. Shows awareness of limitations relating to time, space, materials, and abilities when working on group or individual projects.

14. Can provide details that contribute to the development of a plan or procedure.

15. Sees alternative ways to distribute work or assign people to accomplish a task.

The student's role in the planning talent is that of a planner or executer. Any activities that involve planning a trip, a party, an activity, or creating a blueprint of something would help to develop this area.

The teacher's role is that of a stimulator and questioner. He needs to develop situations for planning. Situations can be created for students to develop and carry out their own plans. The teacher can ask questions that require students to elaborate on their plans, become more sensitive to problems, design

alternatives for solving possible problems, design effective and efficient organizational plans, develop step by step procedures, and use resources wisely.

In review, five key points to teach the planning talent are as follows:

1. Determine task (What)
2. Develop steps (How)
3. Identify time, space, resources (Things)
4. Identify possible problems
5. Develop alternative plans

Process verbs that are associated with the planning talent are consider, provide, locate, propose, coordinate, designate, relate, label, and implement. Others include determine, signify, mark, plot, systemize, include, prepare, and arrange.

The planning talent of Calvin's Multiple Talent Approach corresponds with the synthesis level of Bloom's Taxonomy.

Forecasting is the next talent identified by Taylor. The ability to predict future events is the basis of this talent. The student needs to be able to evaluate cause and effect sequences and decide what is most likely to occur. There are three subskills involved. Conceptual foresight is the first one. It is the ability to foresee patterns or chains of events, their causes and effects. The second subskill is penetration, which is the ability to see clearly all aspects of a situation. In this subskill the student needs to be able to predict how a situation or condition might change and how the changes might affect the prediction. Social awareness is the third subskill. This is predicting how other people will react and how their

reactions will affect future events. Included in this is the ability to foresee whether the changes will impose unpleasant or unacceptable conditions upon others and whether change will cause positive or negative effects on people.

Teachers should encourage children to keep an open mind and explore all of the possible conditions affecting the result before making their prediction.

The following steps are included in the teaching process:

1. Present a hypothetical situation.
2. Ask students to make a prediction of what might happen if this situation occurs.
3. Give reasons to support predictions.
4. Ask what conditions are necessary to make each prediction come true and why these conditions are necessary.
5. Reach a conclusion about the most likely result, and support this conclusion.

Eberle (1974, as in Maker) provides guidelines for identifying students with forecasting talent.

1. Anticipate effects and outcomes.
2. Evaluates past knowledge and experiences.
3. Reorganizes past knowledge and experiences.
4. Views situations objectively.
5. Takes into consideration and displays empathy for human reactions.
6. Is attuned to their feelings and hunches.
7. Is not overly concerned about being right in their predictions.
8. Is socially aware, knows what is going on around him.
9. Is sensitive to actions that would affect the situation and others.

10. Clearly perceives situations of cause and effect.

The student's role in the planning talent is that of a forecaster. Some helpful activities to develop the forecasting talent would be to predict causes from effects and effects from causes, predict what your family will be like in five years, and predict what will happen in a scientific experiment.

The teacher's role is that of a stimulator and questioner. He could develop hypothetical situations for students to make predictions about. Questions asked that will stimulate students to use their past experiences to predict future events will also help to develop this talent area. The teacher could also help the students in establishing cause-effect relationships.

Some cues for forecasting might be, "What might happen if . . .?", "What difference would it make if . . .?", and "If . . ., then . . ." Additional cues would be propose, guess, perceive, imagine, explore, view, anticipate, contemplate, hypothesize, and assume. Calvin's forecasting talent is closely related to Bloom's analysis level.

The final talent outlined in Calvin Taylor's Multiple Talent Approach is communication. It is the ability to send a verbal or non-verbal message that is understood by the recipient.

Development facets in the ability to communicate are expressional fluency, (i.e., the skill in expressing thoughts, ideas, and needs and understanding these expressions made by others); associational fluency (i.e., understanding the interrelationships between ideas; seeing what relationship there might be between personal thoughts, ideas, and experiences and those of other people); and word

fluency (i.e., using words to give precise meaning; to add color, beauty, depth; and to convey emotions).

A teacher who wants to develop communication talent should assist students in understanding the complexity of human interaction. The barriers that can inhibit communication should also be noted.

The teaching process for the communication talent can be outlined as follows:

1. Determine what is to be communicated.

   Questions to stimulate thinking after reading a biography . . .

   a. What are some interesting events that happened to your character?

   b. What were some surprising occurrences in their life?

   c. What contributions from this person have had historical or social significance?

2. Determine with whom this communication will take place.

   Questions to stimulate thinking after reading a biography . . .

   a. What individuals or groups have benefitted from your character's life?

   b. What other individuals have made similar contributions?

   c. What person alive today would you like to introduce your character to?

3. Determine how these results should be communicated to each identified audience.

   Questions to stimulate thinking after reading a biography . . .

   a. What contributions of this person would you share with the class?

b. What are all the ways you present these contributions (brainstorm and list)?

c. How will you choose to present the contributions?

Renzulli et al. (1976, as in Maker) divide communication talent into two areas: expressiveness and precision. They provide the following characteristics of talented communicators:

Communication Characteristics — Expressiveness

1. Uses voice expressively to convey or enhance meaning.
2. Conveys information non-verbally through gestures, facial expressions, and "body language."
3. Is an interesting storyteller.
4. Uses colorful and imaginative figures of speech such as puns and analogies.

Communication Characteristics — Precision

1. Speaks and writes directly and to the point.
2. Modifies and adjusts expression of ideas for maximum reception.
3. Is able to revise and edit in a way which is concise, yet retains essential ideas.
4. Explains things precisely and clearly.
5. Uses descriptive words to add color, emotion, and beauty.
6. Expresses thoughts and needs clearly and concisely.
7. Can find various ways of expressing ideas so others will understand.
8. Can describe things in a few very appropriate words.
9. Is able to express fine shades of meaning by use of a large stock of synonyms.
10. Is able to express ideas in a variety of alternate ways.

11. Knows and can use many words closely related in meaning.

The student's role is that of a communicator. A few activities that would stimulate this talent area are to describe an object based only on the sense of touch or sound, give directions to a blind person, develop a set of universal symbols that could be used by people of all countries, try to send a message to a person so that it can be understood by that person alone, or make a report of an event that contains only facts (of that same event); make another that contains only impressions.

Once again, the teacher's role is that of a stimulator or questioner. He could develop situations for students to practice communicating with real or simulated audiences. Situations could also be created for analyzing the effectiveness of communication.

Some communication cues are: give an explanation for . . . tell why it happened, write a poem that clearly describes your feelings about war, have your painting express joy (fear, happiness, anger), and draw a map showing the shortest way to . . . Additional verb cues would be advise, say, enlighten, demonstrate, sketch, outline, pronounce, acquaint, announce, recite, translate, inform, convey, and articulate.

Taylor's communication talent is related to the application level of Bloom's Taxonomy.

Higher Level Thinking Skills and Its Relationship to Literature

The teaching of "critical thinking" is necessary and expected in education today. Teachers of all disciplines must teach their students to question, to analyze and to look beyond the superficial for all possible answers (Carr, 1988).

> Teachers are the ones who touch students and interact with them. They are the ones who implement educational policy and curriculum content, scope, and sequence. And — most important — they are the ones who establish the educational climate and who structure learning experiences. In short, they have almost complete power over the process that takes place in the classroom. And it's my contention that process is more important than content.
>
> — J. J. Foley

Teachers of all disciplines must teach their students to question, to analyze, and to look beyond the superficial for all possible answers (Carr, 1988). Thinking cannot be divorced from content; in fact, thinking is a way of learning content (Raths et al., 1967, as in Carr, 1988). Students should be taught to think logically, to analyze and compare, to question and evaluate in every course, especially content subjects. Skills taught in isolation do little more than prepare students for tests in isolated skills (Spache & Spache, 1986, as in Carr, 1988).

Besides, something tacked onto the curriculum is usually temporary. It is often cut early in the reductions made during times of financial difficulties or education reform.

At every level, elementary, secondary, and college-thinking must be applied and practiced within each content field. This means harder work for the teacher. It is much easier to teach memorization of facts and test objectively. Course objectives must include application and analysis, divergent thinking, opportunities to organize ideas, and support value judgments. As McMillen (1986, as in Carr,

1988) noted, "It really boils down to whether teachers are creating an environment that stimulates critical inquiry."

Teaching students to think while reading — critical reading — should be central to any discussion of thinking skills. Critical reading has been defined as learning to evaluate, draw inferences and arrive at conclusions based on evidence (Zintz and Maggart, 1984, as in Carr, 1988).

Children's literature, including biographies, is a powerful tool for teaching. It deals with problems of the human condition. Somers and Worthington (1979, as in Carr, 1988) noted that "literature offers children more opportunities than any other area of the curriculum to consider ideas, values, and ethical questions." Quality literature, that which inspires and challenges, helps children how to become "one" with a book. McMillan (1986, as in Carr, 1988) states, "We must help students learn to read deeply."

Carr (1988) elaborates and suggests Bloom's Taxonomy of the Cognitive Domain (1956) provides a useful structure to help the teacher devise higher order cognitive activities and discussion questions for children's literature.

> Indeed, the urgent need to teach thinking skills at all levels of education continues, but we should not rely upon special courses and texts to do the job. Instead every teacher should create an atmosphere where students are encouraged to read deeply, to question, to engage in divergent thinking, to look for relationships among ideas, and to grapple with real-life issues."
>
> — Carr, 1988

KEY WORDS FOR COGNITIVE QUESTIONS					
Knowledge what when who define describe distinguish identify list name recall state write indicate tell repeat label record memorize	*Comprehen-sion* compare conclude contrast predict which distinguish explain rephrase what fill in illustrate infer restate discuss describe express identify locate report review	*Application* apply develop test choose solve tell indicate demonstrate translate interpret operate employ schedule practice illustrate dramatize	*Analysis* analyze describe classify compare discriminate distinguish recognize relate explain contrast assume test debate diagram question inventory criticize solve contract differentiate experiment calculate	*Synthesis* write create propose suggest how make up what plan formulate synthesize derive compose design arrange collect assemble organize construct prepare	*Evaluation* choose evaluate decide judge select which defend check determine score compare predict measure rate estimate value assess

SUMMARY OF TEACHER AND STUDENT ROLES AND ACTIVITIES IN THE TAXONOMY OF COGNITIVE OBJECTIVES

Step, Type, or Level of Thinking	Student		Teacher	
	Role	Sample Activities	Role	Sample Activities
Knowledge	passive recipient; memorizer; active recipient	Answer questions requiring recall or memory. Answer questions almost verbatim about specific facts. Pay attention to the information read or heard.	provider of information and resources; questioner; organizer of learning activities; evaluator	Provide students with information about a subject. Provide students with resources on a topic. Ask questions to check whether they know the information presented to them. Assist students in finding information they identify as necessary or desirable.
Comprehension	active participant	Answer questions or do activities requiring translation of information (e.g., explain a metaphor). Answer questions or do activities requiring interpretation of information (e.g., What do you think was the general idea of that last paragraph?). Answer questions or do activities requiring extrapolation from existing information (e.g., What do you think will happen next in the cold war based on what has happened so far?).	provider of information and resources; questioner; organizer of learning activities; evaluator	Check to see if students have the knowledge required to do the task. Ask questions to see whether they can paraphrase, extend, and/or make inferences based on the information. Provide sequential activities that first require the student to translate, then interpret, and then extrapolate from the given information. Give students suggestions about how they can comprehend better.

(Maker, 1982)

Step, Type, or Level of Thinking	Student		Teacher	
	Role	Sample Activities	Role	Sample Activities
Application	active participant	Use some previously learned rule or method in a new situation. Decide which method to use or which principle to apply. From an understanding of the situation and its requirements, choose an appropriate method.	provider of information and resources; questioner; evaluator	Check to see if students have the knowledge and comprehension necessary to do the task. Provide students with a new problem or situation where they can apply a principle or principles previously learned. Ask questions to determine their understanding of the requirements of the problem. Provide feedback to the students on their performance (i.e., if they have applied the wrong method or have used the right method but in the wrong way, tell them what went wrong).
Analysis	active participant	Break down a piece of information, plan, or proposal into its parts (e.g., recognize unstated assumptions). Identify the relationships between the parts (e.g., check the consistency of a hypothesis with given assumptions). Identify the arrangement or structure of something (e.g., recognize the pattern of meaning of a literary work).	provider of information and resources; questioner; organizer of learning activities; evaluator	Check to see if students have the knowledge, comprehension, and application skills necessary to do the task. Design sequential learning activities that will develop the component skills of identifying the elements of a communication, analyzing the relationships between elements, and recognizing the organizational principles involved. Ask questions to determine whether students have analyzed elements, relationships, and organizational principles. Give students feedback on their performance. Let them know if they have missed important elements, overlooked relationships, hypothesized the wrong relationships, or incorrectly identified the underlying principles.

(Maker, 1982)

Step, Type, or Level of Thinking	Student		Teacher	
	Role	Sample Activities	Role	Sample Activities
Synthesis	active participant	Put together elements in a new way so that a different pattern or product is developed. Write and organize statements. Develop a research proposal. Formulate and modify a theory.	provider of information and resources; questioner; organizer of learning activities; evaluator	Check to see if students have the knowledge, comprehension, application, and synthesis skills necessary to do the task. Design sequential learning activities that will develop synthesis skills in several areas — communication, production of a plan or proposal, and development of a set of abstract relations. Provide feedback to students on their products (e.g., Can the ideas be arranged more effectively? Is the plan or proposal realistic? Is the theory consistent?), and give specific suggestions for improvement.
Evaluation	active participant	Make judgments about the value of information, materials, or methods for given purposes. Select or develop appropriate criteria for making judgments. Make judgments based on internal or external criteria. Make quantitative and qualitative judgments.	provider of information and resources; questioner; organizer of learning activities; evaluator	Check to see if students have the knowledge, comprehension, application, analysis, and synthesis skills to do the task. Provide situations where the student must evaluate based on different kinds of evidence — internal or external. Provide criteria for evaluation. Require the student to develop criteria. Devise learning activities to help in selecting or developing standards for evaluation (e.g., assist in the learning of logical principles for evaluating arguments). Provide students with feedback on their performance (e.g., identify additional criteria to be used, show inconsistencies in application of criteria).

(Maker, 1982)

SUMMARY OF TEACHER AND STUDENT ROLES AND ACTIVITIES IN CALVIN TAYLOR'S MULTIPLE TALENT APPROACH

Step, Type, or Level of Thinking	Student		Teacher	
	Role	Sample Activities	Role	Activities
Creative Talent	creator; problem solver	Invent a game. Create new uses for familiar objects. Create an object of art that expresses some emotion. Create a useful object by recycling junk. Invent a machine that is energy efficient.	stimulator; questioner	Ask questions that lead students through the process of listing, refining, incubating, choosing, and implementing. Develop provocative or interesting situations that can be presented to students for creative activity.
Decision Making Talent	decision maker	Decide what will happen at the end of an unfinished story. Decide what to take on a two-week trip when you are allowed only one small suitcase. Decide what your ideal person would be like. Decide where to live if given unlimited choices. Decide what to do about an unjust law. Decide on a list of people to be included in a peace conference.	stimulator; questioner	Develop situations or pose situations for students to make decisions about. Pose questions that encourage (or require) students to consider a variety of alternatives, relate their decisions to their goals, consider the effects or results of their decisions, and develop both their logic and their intuition to enhance their effectiveness. Assist students in defending their decisions.
Planning Talent	planner; executer	Plan all activities for a day; at the end of the day, evaluate the plan. Plan a party, have it, and then evaluate its success; plan another and learn from past mistakes. Plan a class field trip. Plan a reenactment of some event from the past — either real or fantasy. Draw a blueprint for a school.	questioner; stimulator	Develop situations for planning. Create situations for students to develop and carry out their own plans. Ask questions that require students to elaborate on their plans, become more sensitive to problems, design alternatives for solving possible problems, design effective and efficient organizational plans, develop step-by-step procedures, and use resources wisely.

(Maker, 1982)

Step, Type, or Level of Thinking	Student		Teacher	
	Role	Sample Activities	Role	Activities
Forecasting Talent	forecaster	Predict effects from causes and causes from effects. Predict what would happen if there were no gravity. Predict what will happen in the world 20 or 50 years from now; explain why these things may happen. Predict what your family will be like in five years. Predict what will happen in a science experiment.	stimulator; questioner	Develop hypothetical situations for students to make predictions about. Assist students in establishing cause-effect relationships. Ask questions that will stimulate students to use their past experiences to predict future events, notice how conditions change and how these conditions affect predictions, notice how people affect and are affected by events, notice how their own behavior affects others.
Communication Talent	communicator	Describe an object based only on the sense of touch. Give directions to a blind person. Develop a set of universal symbols that can be used in all countries. Try to send a message to a person without using words or gestures. Try to send a message to one person that is not understood by everyone else. Choose a feeling — figure out several ways to express it both verbally and nonverbally. Make a report of an event from the point of view of a participant, a close observer, and a distant observer. Make a report of an event that only contains facts; make another report (of the same event) that only contains impressions.	stimulator; questioner	Develop situations for students to practice communicating with real or simulated audiences. Create situations for analyzing the effectiveness of communication. Ask questions that encourage students to see how actions and words are related, relate their experiences to the experiences of others, select words with clear meanings, seek alternative ways of expressing each idea, develop a large vocabulary. Provide situations for students to practice both verbal and nonverbal communication.

(Maker, 1982)

CHAPTER III

HANDBOOK

HANDBOOK INTRODUCTION

The guide is divided into two sections: Classroom Activities for Use During a Biography Study Using Taylor's Multiple Talent Approach and An Independent Guide to the Study of a Biography Using Higher Level Thinking Skills. The first section is designed to use in a group setting to stimulate thought and interest for the subject. The second section is designed for independent use. The activities are varied and address each of the areas outlined by Calvin Taylor and Benjamin Bloom. The format is intentionally generic allowing the children freedom to choose a subject of interest to them.

CLASSROOM ACTIVITIES FOR USE DURING A BIOGRAPHY STUDY INCORPORATING TAYLOR'S MULTIPLE TALENT APPROACH

MULTIPLE TALENT APPROACH			
COMMUNICATION	**FORECASTING**	**DECISION MAKING**	**PLANNING**
			Survey of interests to be included in packet. Design list of possible projects to share.
Write a descriptive paragraph to describe your setting. Make a collage of pictures appropriate to the setting.	Why is the area they were living in significant in their life and accomplishment?		Decide on an appropriate way to present a visual representation of your setting. 1) size; 2) visuals or no; 3) number of records to be included; 4) will historical events be included?
	Why do you think the author wrote about this person? biography? autobiography? How would story be altered if it had been told by someone else? Identify the someone and find 3 ways it would be different.	If you were going to have someone write a biography about you, who would it be? What attack to the story line would you choose for your autobiography?	
Identify character personality traits. Decide on a way to make your person real to us. Write a letter to someone in their life, son or daughter, sympathy, thank you note, letter of application, letter of introduction.	Who do we know of in today's society that would have been friends with your person and why?	Evaluate significant traits for a biography. Relate to their personal traits. Which of our traits would be significant now and possibly in the future for your biography?	
	What if this person lived at a different time — socially, historically, technologically? What in your future might be included in a time line?		
Ap(Application) An(Analysis) Sy(Synthesis) Ev(Evaluation)			

AN INDEPENDENT GUIDE TO THE STUDY OF A BIOGRAPHY INCORPORATING HIGHER LEVEL THINKING SKILLS

Name _____

_____

(Title of your book)

_____

(Author)

_____

(Illustrator, if applicable)

_____

(Publishing company)

_____

(Copyright date)

KNOWLEDGE: Activity 1

Characters

Identify the characters in your book. On the left give their full name. On the right tell something about the person. Tell how they were related to or interacted with the main character.

KNOWLEDGE: Activity 2

Vocabulary

Find 10 words that were unfamiliar to you or of particular interest to you. Write the word on the left side of the paper. On the right side, write the sentence in which the word is found in the book as well as the page number. Write the appropriate definition of the word. If more space is needed, you may use the back of this sheet.

1.

2.

3.

4.

5.

6.

7.

8.

9.

10.

COMPREHENSION: Activity 1

This is Your Life

Biographies are only written about unique people. Identify five (5) events or achievements in the life of your person that would cause the author to write about him. Place the events on the time line below. Be sure the events are in chronological order. The earliest events go on the left and progress to the right. Give the year, if possible, and a brief description of the event.

Events or Achievements in His Life

1.	2.	3.	4.	5.

Place historical events such as war, victories, weddings, presidential campaigns, or elections which took place during your person's life. Place them on the time line below.

Historical Events

1.	2.	3.	4.	5.

COMPREHENSION: Activity 2

Use complete sentences and good paragraph form to explain these events.

Explain the happiest event in your person's life.

Explain the saddest event in your person's life.

APPLICATION: Activity 1

"No man is an island. No man stands alone."

What does this quote mean? _____

_____

_____

_____

_____

Give me the name of a person who helped your character become the person he was.

_____

_____

How has your character influenced or improved the lives of others?

_____

_____

_____

_____

How have the accomplishments of this person touched <u>your</u> life or improved the lives of people <u>you</u> know? (Be sure to identify the person or group of people you are talking about before telling me how they were affected.)

_____

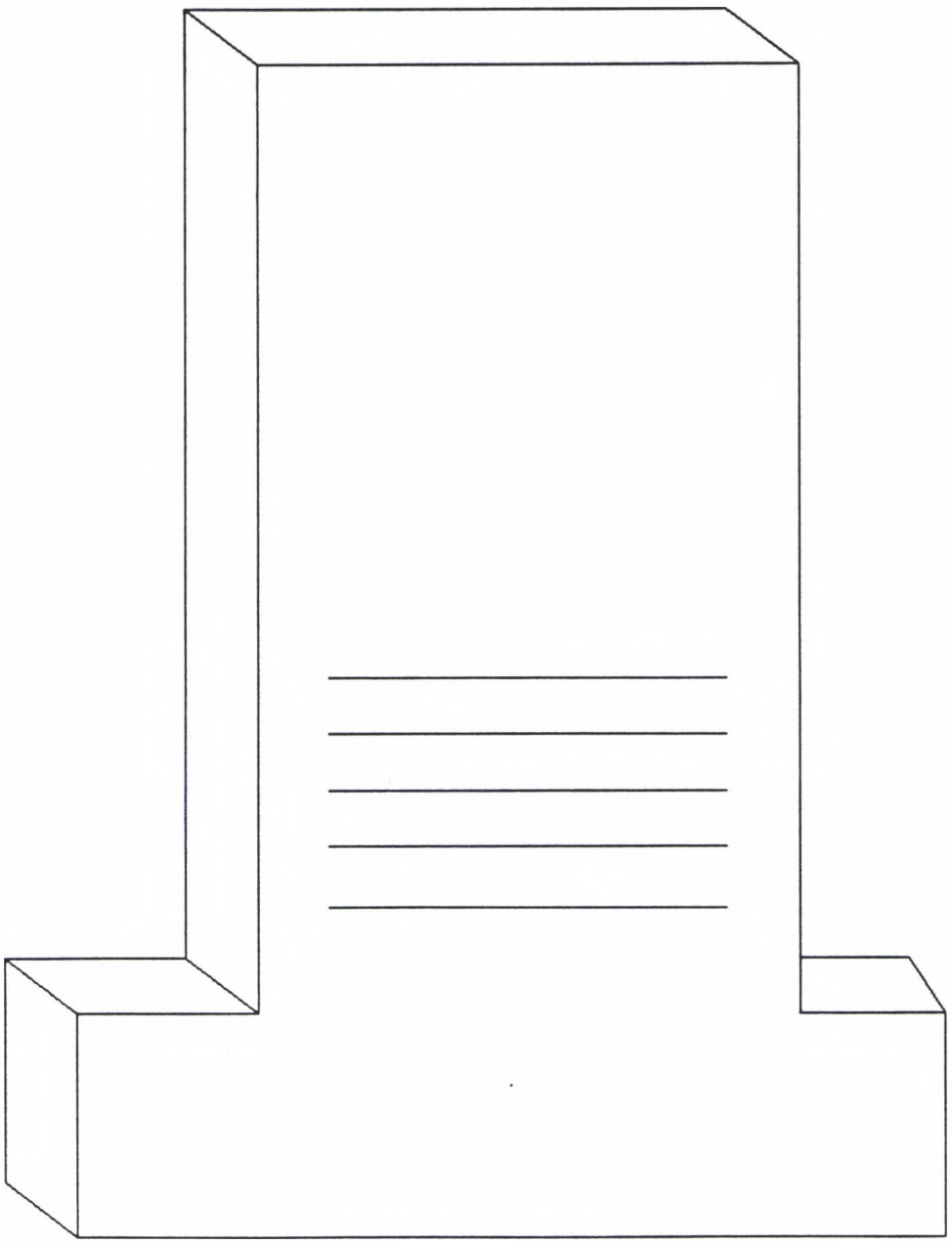
_____

_____

_____

APPLICATION: Activity 2

Write a poem which could be used as an epitaph for your person. The poem could be a diamante, limerick, haiku, or free verse. Place it on his grave marker. Fill in the necessary information. (If your person is still alive, leave room for the death date.)



ANALYSIS: Activity 1

Each person has many character traits that when combined make that person unique. Name three of your character's traits (i.e., determined).

1. Trait: _____

   What happened in your book to let you know your character had this trait? (i.e., Give an example from your book that illustrates your character's determination.)

   Example: _____

   _____

   _____

   _____

   _____

2. Trait: _____

   Example: _____

   _____

   _____

   _____

   _____

3. Trait: _____

   Example: _____

   _____

   _____

   _____

   _____

ANALYSIS: Activity 2

Why do you think this person should have had his story told? _____

What were the greatest accomplishments of this person? (Choose at least 3.) ____

1. _____

2. _____

3. _____

What are some things you learned about the main character that you probably wouldn't have known if you hadn't read the book? List at least 3.

ANALYSIS: Activity 3 (May be done instead of 1 and 2)

ACCOMPLISH-MENT / CONTRIBUTION	TRAITS PERSONALITY & PHYSICAL	PEOPLE OR EVENTS THAT INFLUENCED THEM	HARDSHIPS	IMPACT ON SOCIETY	ITEMS OF INTEREST TO THE READER

SYNTHESIS: Activity 1

Dear _____,
(character's name)

I feel I know you very well. When you _____

_____

_____

_____, it reminded me of something I would do.

I felt sorry for you at one point because _____

_____

_____

_____

I am thankful that you _____

_____

_____

I'd have to say you're a _____

_____.

It was a pleasure getting to know you.

Sincerely,

_____
(your name)

SYNTHESIS: Activity 2

Design a newspaper all about your character. Some research may be necessary for the world and national news sections.

<table>
<tr><td colspan="3">(Flag)</td></tr>
<tr><td colspan="2">(Local News)</td><td rowspan="2">(World News)</td></tr>
<tr><td colspan="2">(Who?)</td></tr>
<tr><td colspan="2">(What?)</td><td></td></tr>
<tr><td colspan="2"></td><td></td></tr>
<tr><td colspan="2"></td><td></td></tr>
<tr><td colspan="2">(When?)</td><td></td></tr>
<tr><td colspan="2"></td><td></td></tr>
<tr><td colspan="2">(Where?)</td><td></td></tr>
<tr><td colspan="2"></td><td></td></tr>
<tr><td colspan="2">(Why?)</td><td rowspan="2">(Obituary)</td></tr>
<tr><td colspan="2"></td></tr>
<tr><td colspan="2"></td><td></td></tr>
<tr><td>(National News)</td><td>(Classified Ad)</td><td></td></tr>
<tr><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td></td></tr>
<tr><td></td><td rowspan="4">(Advertisement)</td><td></td></tr>
<tr><td></td><td></td></tr>
<tr><td></td><td></td></tr>
<tr><td></td><td></td></tr>
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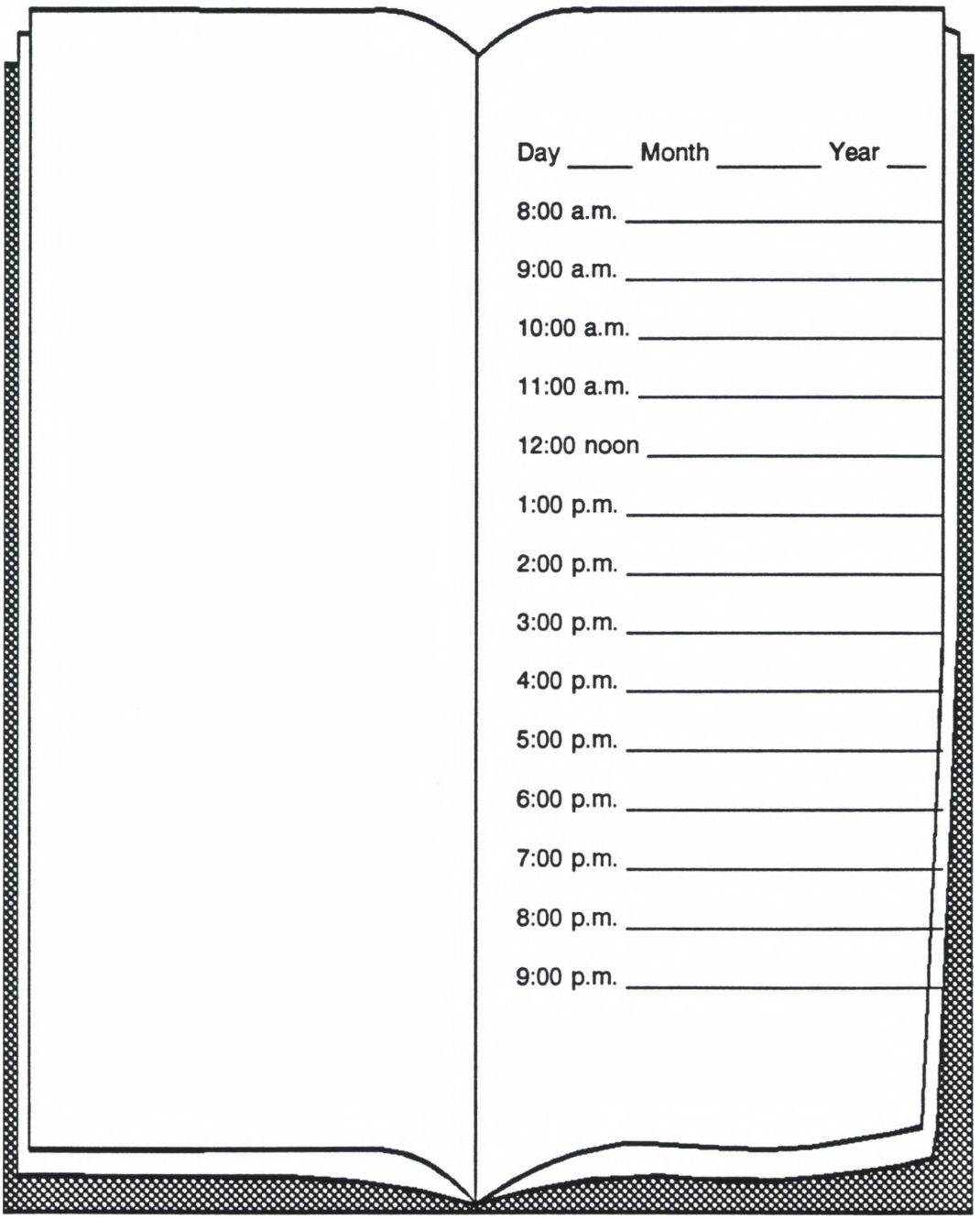
</table>

SYNTHESIS: Activity 3

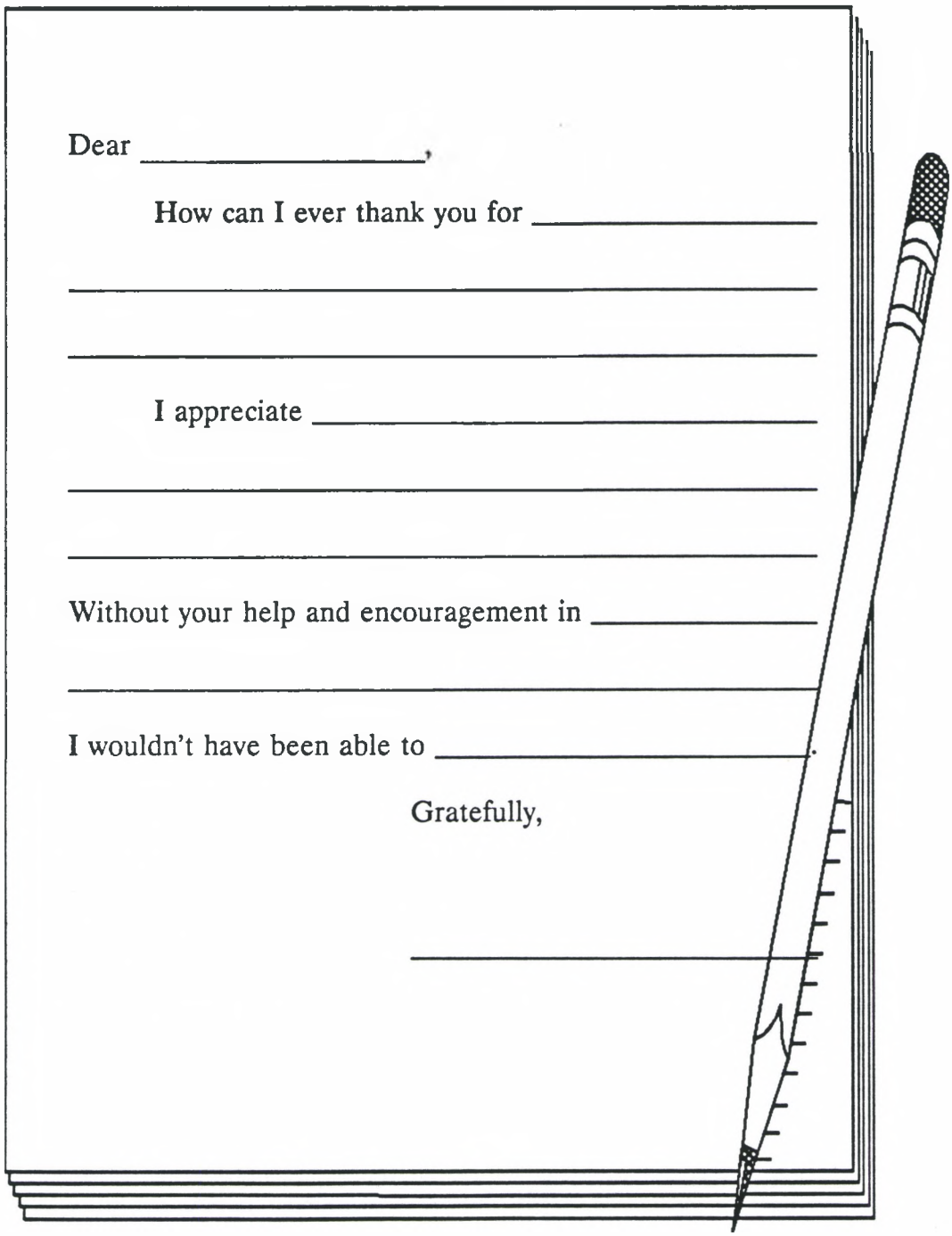
As the social secretary of _____, you are responsible for his daily activities. Fill in the appointments, meetings, and activities of _____ for a day.



EVALUATION: Activity 1

Pretend you are the main character in your book.

Choose a person who was very influential in your life. Write him a thank you note expressing your gratitude for the contribution that person made to your life.



EVALUATION: Activity 3

You have just been named the casting director for the movie version of the story of your character's life. Your job is to hire the actors to portray the characters in the book. Not only do you have to give your recommendations for hiring but you also must give valid reasons for your choices. Using the names of actors you've seen on T.V. or in movies, who would you want to play the characters in your book? Why have you made these choices?

CASTING RECOMMENDATIONS		
Part (Character)	**Actor**	**Reasons**

ENRICHMENT ACTIVITIES

1. Create a mobile representing five important aspects of your person's life. Include a brief description of each.

2. We all have individual rules that we live by, such as "Do unto others as you would have them do unto you," or "Do it to them before they do it to you," or "Honesty is the best policy," or "What they don't know won't hurt them," etc. Write three rules of conduct that the person you read about lived by.

3. Compile a bibliography of books, articles, films, filmstrips, etc. about this person. List at least ten sources. Use the correct form for a bibliography.

4. Make a poster that depicts your person's "Journey Through Life." Be as clever as you can in showing obstacles, high points, relationship to others and so on.

5. Write a limerick, Haiku or Cinquain using information learned about your person.

6. Choose 3-5 newspaper articles that would be relevant to your person if alive. Write your person's reactions to the news items.

7. If your person is alive, make a collage of articles, commercial, ads, etc. relating to them.

8. Plan a Trip of Memories — Using maps, brochures, travel aids, etc. design a trip that would take a traveler to all the important areas, sites, of your person's life. Be original — should the trip go to places other than where your person lived or worked? Design a brochure to accompany the Trip of Memories.

9. Analyze your person's "failure record." How many times did he fail at what he attempted? What were the results? Make a chart or other visual to share what you discovered.

10. Make a shield for your person. Include their motto, what they consider to be their most important accomplishments, and so on.

11. Write a biography for young children that tells about the person you have read about.

12. Illustrate an all picture book about the person you have read about.

13. Celebrate your person's birthday. Plan a party to be shared by your classmates. Plan the following: the present they would be delighted to receive, entertainment they would like to see, hear, take part in, guests that would be invited. In each case be prepared to defend your choices.

14. Design an award for your person. What would it be given for?

15. Make a crossword puzzle that will help your classmates learn about your person.

16. Using the letters of your person's name, write and illustrate an "alphabet book." Each page should help the reader gain insight/ knowledge about your person. Think carefully about what words you will use as you spell out your person's name (i.e., John F. Kennedy — J is for . . . , O is for . . . , H is for . . .).

CHAPTER IV

SUMMARY AND CONCLUSIONS

In order to encourage students to read a biography and to study it using all levels of thinking as outlined by Benjamin Bloom as well as using the talent areas as outlined by Calvin Taylor, the writer designed a study guide to be used with a biography chosen by the students. A variety of small group as well as class activities using the Multiple Talent Approach will be used throughout the unit to allow children with talents in each of the areas to find success. All children will also be exposed to Bloom's six levels of thinking.

Conclusions

Through the use of this study guide, children will be given the opportunity to work in their strong talent area, strengthen their ability in the other talent areas, and improve their thinking skills. All of this will be accomplished within the confines of the regular classroom.

BIBLIOGRAPHY

Alarie, Julia Ring, and Elizabeth Conlon. Literature and Critical Thinking. Huntington Beach, Teacher Created Materials, Inc., 1989.

Boyles, Nancy Naumann. "The New, Improved . . . Critical Reading." Learning (July/August 1988): 50-57.

Carr, Kathryn S. "How Can We Teach Critical Thinking?" Childhood Education (Winter, 1988): 69-73.

Carratello, John and Patty. Literature and Critical Thinking. Huntington Beach, Teacher Created Materials, Inc., 1989.

Costa, Arthur L. (ed.). Developing Minds, A Resource Book for Teaching Thinking. California, Association for Supervision and Curriculum Development, 1985.

Dunn, Judy Rowland. "Making Time for Critical Thinking Skills." Instructor (Sept. 1989): 36-37.

Fairburn, Donald M. "The Art of Questioning Your Students." The Clearing House (September, 1987, Vol. 61): 19-22.

Girvan, James T. "Enhancing Student Decision Making Through Use of Critical Thinking/Questioning Techniques." Health Education, December 1989: 48-50.

Hunkins, Francis P. Teaching Thinking Through Effective Questioning. Boston, Christopher-Gordon Publishers, Inc., 1989.

Maker, C. June. Teaching Models in Education of the Gifted. Austin, Pre-Ed., Inc., 1982, 17-53 and 293-325.

Matthews, Doris B. "The Effect of a Thinking-Skills Program on the Cognitive Abilities of Middle School Students." The Clearing House, January 1989, Vol. 62: 202-204.

Morgan, Mary. "Encouraging Critical Thinking in the Language Arts." Language Arts, November 1990, Vol. 67: 780.

Paul, Richard; A.J.A. Binker; Karen Jensen; and Heidi Kreklaw. Critical Thinking Handbook 4th-6th Grades. California: Sonoma State University, 1987.

Paul, Richard; A.J.A. Binker; Douglas Martin; Chris Vetrano; and Heidi Kreklaw. Critical Thinking Handbook: 6th-9th Grades. California: Sonoma State University, 1989.

Polette, Nancy. 3 R's for the Gifted. Colorado, Libraries Unlimited, Inc., 1982.

Walters, Kerry S. "How Critical is Critical Thinking?" The Clearing House, September/October 1990, Vol. 64: 57-60.